

After Storm, Water Quality Tested

TIMES NEWS – AUGUST 8, 2014

6 hours ago • By Nathan Brown nbrown@magicvalley.com

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TWIN FALLS • At the peak of Wednesday's storm, Twin Falls' wastewater treatment plant was dealing with over two-and-a-half times its normal flow.

In a typical day, the plant handles between 7 and 8 millions gallons, said Public Works Manager Jon Caton. On Wednesday, though, as several inches of rain dumped on the Magic Valley, the plant reached flows so high that, if they had been sustained all day, the plant would've processed 20 million gallons, Caton said.

Caton said it is likely that the plant exceeded its 16 million gallon a day limit for how much water it can disinfect. This means the city has to notify the federal Environmental Protection Agency and state Department of Environmental Quality, take some water samples and test the quality.

Caton said his office has a good relationship with the local EPA office, so he doesn't expect the city to be penalized for exceeding its flow during the storm.

"They'll probably take into consideration that we had an extraordinary storm event, but it'll be up to them if we get a violation or a fine," he said.

Caton said Thursday water clarity looked good, but the test results won't be back for a few days.

"Today, we are performing all sorts of lab testing to just verify the condition of the plant," he said. "We won't know the final answer on (its) condition until (our) lab results are complete."

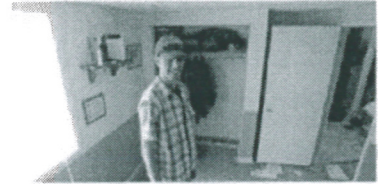
Crews were checking the city's infrastructure for damage Thursday. The only significant infrastructure damage, though, appears to have been the landslide near Canyon Crest that damaged a section of the Canyon Rim Trail, said City Manager Travis Rothweiler.

Rothweiler said city crews would inspect Canyon Springs Road to make sure it hadn't been damaged. As for the trail, Rothweiler said that section would be closed until it can be fixed.

There were also smaller washouts at Rock Creek Park, which is owned by the county, and on Shoshone Falls Grade, Rothweiler said.

The city had to pay police and public works crews overtime to deal with the storm; the amount of the extra costs hadn't yet been compiled Thursday.

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TWIN FALLS • "Minimal damage and no loss of life."

That's how Jay Breidenbach, warning coordinator meteorologist with the National Weather Service in Boise, described Twin Falls' storm of the century.

"We were fortunate that this happened in the summer," Breidenbach said. "If it had happened in the winter with frozen ground, it would have been catastrophic."

Breidenbach was in town Thursday to survey damage caused by the storm.

Rain gauges at Joslin Field showed a total of 3.72 inches fell in 48 hours, he said. A remote automatic weather station at Trail Gulch, west of Hollister, measured 4.2 inches of rain.

Twin Falls officials said they are pleased with how the city's infrastructure handled the storm.

"The wastewater collection and treatment systems managed the surge of excess water with relatively few issues," said Twin Falls Police Staff Sgt. Dennis Pullin.

Not everyone, however, came out of the flood unscathed.

Claims Against the City

As flood waters from nearby Perrine Coulee overwhelmed sewer pipes, raw sewage "boiled out of the basement toilets" at a duplex in the 1700 block of Poplar Avenue, said property owner Elaine Bowman.

Renters living in the duplex were moved to a motel Wednesday evening, said Chris Taylor, disaster services program specialist with the American Red Cross in Twin Falls. The Red Cross can usually put people up in hotels for three days.

Bowman, who manages other rentals, said she is looking for new homes for her renters because the duplex is uninhabitable until carpets and drywall in the basement are replaced.

On Thursday morning, Bowman picked up papers to file a tort claim against the city, she said. Her insurance company told her it won't cover damages, claiming the city's pipes were at fault.

Next door to Bowman's duplex, Cassandra and John Harding awoke Wednesday morning to find 3 inches of water in the basement laundry room and 2 inches in the bathroom.

They, too, will be filing a claim against the city, they said.

A restoration company pumped the Hardings' basement until late Wednesday afternoon as water continued to bubble out of the shower drain.

Luckily, no raw sewage entered the home, they said. But the family of seven — plus one on the way — will be forced to squeeze into half their living space until the basement dries out.

That could take several months.

"The kids will be the most affected," said Cassandra Harding. "We have five kids under the age of 11. This upsets their whole lives."

Watching the Weather

Larry Speirs, leader of the neighborhood's Citizen's Emergency Response Team, said he measured 4.5 inches in his backyard rain gauge on Wednesday.

Speirs, who has lived on Poplar Avenue for decades, said the Perrine Coulee flooded like this once before.

"It was in January 1979 when the ground was frozen and covered with 8 inches of snow," he said. "Then it rained like crazy."

Travis Rothweiler, Twin Falls city manager, said crews are keeping an eye on the weather forecasts while monitoring waterways and roadways, most of which were open and dry Thursday afternoon.

Canyon Springs Road remains closed after mud and boulders slipped down the canyon wall and onto the Canyon Springs Golf Course Wednesday.

"The road is still barricaded and crews are cleaning up," Rothweiler said. "As a precaution, we are waiting for the canyon wall to dry out and stabilize."

Flood waters also washed out a section of the Snake River Canyon Rim Trail behind Canyon Crest. The trail remains closed in that area, he said.

St. Luke's Magic Valley Medical Center sustained some damage to administrative offices when flood waters flowed from Cheney Drive into the physicians parking lot. Laura Stewart, spokeswoman for the hospital, said Thursday.

No patient care areas were adversely affected, Stewart said, and cleanup activity is in progress.

Meanwhile, the National Weather Service is closely watching storm activity.

"We saw this one coming," Breidenbach said.

As a surge of moisture from the tropics approached Idaho, the weather service early in the week issued flash flood watches. And as the magnitude of the storm became apparent, the watches turned into flood warnings for the Twin Falls area.

"Monsoonal surges usually amount to a little bit of moisture," he said. "But this one turned into a lot of moisture."

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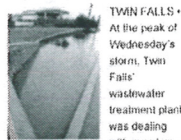


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Cleanup Begins After Flooding

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TWIN FALLS - City officials were assessing the effects of the week's storms this morning. Public works employees were expected to begin checking manhole covers in the most severely affected areas and monitoring roadways.

Most roadways were dry as of about 11 a.m. The city reported standing water on Cheney Drive west of Washington Street. Heyburn Avenue and Maurice Street were still barricaded.

Canyon Springs Grace was being cleared this morning and could open later today and barring any structural damage. The walking trail along the canyon rim remains closed.

Residents with pressurized irrigation should shut their systems off temporarily as no water will be available for a few days. The Twin Falls Canal Company closed multiple head gates to help allow the water to recede from flooded areas.

Parents should keep children out of the water.

"As tempting as the water may seem, there are still many hazards present," a city news release said. "Water is running swiftly through the coulees. The water in the retention areas may be deep with slippery conditions and the water is not clean. We want all of the kids in our community to be safe."

The American Red Cross housed three families Wednesday night due to flooding. A handful of homes that experienced severe flooding and many have minor water damage.

The wastewater collection and treatment systems managed the surge of excess water with relatively few issues

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August 8, 2014 – Report to File –
Twin Falls WWTP Manhole Collection Box Failure
By Dr. Balthasar B. Buhidar, Regional Water Quality Manager

A reported 100-year storm event came through Twin Falls, Idaho on August 5-6, 2014. The National Weather Service (NOAA:
<http://www.nws.noaa.gov/climate/index.php?wfo=boi> &
<http://www.wunderground.com/history/airport/KTWF/>) has the following information for the Twin Falls Location:

DATE	DAILY PRECIPITATION	MONTH-TO-DATE PRECIPITATION	AVERAGE TEMPERATURE
August 3, 2014	0.00"	0.00"	80°F
	0.00"	0.00"	80°F
August 4, 2014	0.01"	0.01"	73°F
	0.01"	0.01"	73°F
August 5, 2014	1.70"	1.71"	68°F
	1.70"	1.71"	68°F
August 6, 2014	2.00"	3.71"	63°F
	2.00"	3.71"	63°F
August 7, 2014	Trace	3.71"	70°F
	Trace	3.71"	70°F
August 8, 2014	Not Calculated	Not Calculated	63°F

The two values reported for DAILY Precipitation and Month-to-Date Precipitation are the reported values from the NOAA and WUNDERGROUND websites for storm events during

From the reported data, the total of 2 days accumulations (1.70" + 2.00") was the estimated precipitation (3.70") that fell in the Twin Falls area. Based on a the number of gallons water per square mile, 1.70" is equivalent to 29.529 million gallons; and 2.00" is equivalent to 34.74 million gallons; for a total of 64.269 million gallons that fell in the 2-day period.

Flooding with Twin Falls occurred along the Main Perrine Coulee, Rock Creek and some of the low capacity storm drains, filling some of the streets with water. The water followed the natural contour elevation to the lowest points, filled stormwater basins to above capacity, filled recreational parks, and got into some homes with basements or in low lying areas. Where business had built into the natural floodplain, flooding occurred and damaged property.

On August 6, 2014 (11:53) Jackie Fields, Twin Falls City Engineer, emailed DEQ (Buhidar) and stated: *"It appears that we may have exceeded both the 6-hr and 24-hr storm with another 2- 4 inches on the way. Apparently, Rock Creek itself is going to take a hit. The LS is still in good condition and isn't taking on excess water through manhole infiltration. We are watching."*

On August 6, 2014 DEQ responded (12:10), *"Just follow permit protocols, monitor, take digitals, and report actuality. I've been getting ISAW reports all night with flooding being a major issue. Thanks for letting me know."*

On August 6, 2014 DEQ (Switzer; 14:22) emailed DEQ (Buhidar) with the following: *"Sonny, Dave [Anderson], Joe [Otero] and I [Sue Switzer] were just on a conference call with Shawn Moffatt and Jason Brown. The City is obviously receiving quite a bit of water beyond what they can contain. They have by-passed their UV, are overflowing a man-hole and are unsure of the connection but this may be going to the river. They have contacted Maria Lopez with EPA to notify of the current conditions and deviation from their permit. They are seeing spikes over 20 MGD – have sampled for E. coli and BOD and are waiting for results. They have shut down 2 aeration ponds to hold some of the sludge. Water from the canyon wall near Canyon Crest has washed soils into the road requiring equipment to keep the road passable. The city will have 24 hour monitoring of conditions at the treatment plant."*

On August 7, 2014 the DEQ (Sonny Buhidar & Sue Switzer) visited the Twin Falls WWTP and spoke with Jack Bennion about the flood failure of the cement Manhole Collection Box that is near the UV Housing. The facility is also under upgrade construction. We visited the Manhole Collection Box that had failed (effluent perforated through the grout seal) and effluent discharged near the UV Housing and elsewhere on the site where the lowest elevation were located. The following two digitals show the Manhole Collection Box (red arrow).

Digital 1. UV Housing in the background. The cement Manhole Collection Box is shown by the red arrow. Note the large concrete block that has been placed to maintain the structure in place. Grout-fill will be added as the facility ground starts to dry out. The Snake River is behind the line of trees and riparian vegetation behind the UV Housing.

Digital 2. Closer view of the cement Manhole Collection Box held in place by the large cement block. The red arrow shows what the water pressure did to the grout-fill and forced the grout seal to break. The manhole itself held, but the effluent poured out through the grout seal of the cement Manhole Collection Box.

The capacity of the Twin Falls WWTP is approximately 10 mgd for flow. What was going through the plant on August 5-6, 2014 was averaging around 16 mgd, with spikes as high as 20 mgd. That amount of pressure built up in the Manhole Collection Box forced the grout seal to crack; to which the effluent spilled through the crack and continued to run until the rain subsided and flows into the plant eventually reduced in volume a day later.

On August 08, 2014, Jason Brown (Twin Falls City) visited with DEQ (Buhidar) and confirmed the information on the discharge event with additional details. The City did call the EPA Hot Line and DEQ and is continuing to monitor the situation. Samples from the laboratory have not come back.

Digital 1





Two Google Earth maps of the facility location and the Manhole Collection Box are as follows:
 Map 1. Overview of Twin Falls WWTP



The effluent discharge occurred on the northeast of the WWTP near the Snake River. The two solid red lines represent the estimate limits of effluent on the surface of the facility on the west and east side. The elevation change across the facility is as follows:

Within the range of the 2 solid red line =	3137' (average of 3 elevation locations)
Midway across the facility =	3163' (average of 3 elevation locations)
Across the south end of the facility =	3183' (average of 3 elevation locations)

There is approximately a 46' drop across the facility (from south to north), the lowest point being near the Manhole Collection Box.

Map 2. Closer View of Manhole Collection Box



The 2 solid red lines (on the west end and on the east end) represent the east-west boundaries of the approximate location of effluent exposure on the surface of the facility. The 3rd red solid, on the west side, coming out of the Storage House, is a pipeline that runs direct to the facility. A concern for the facility will be to cap the discharge pipe so that no future discharges that end up here, end up being discharged in the Snake River. It is uncertain, at this time, exactly how much effluent wastewater was discharged into the Snake River.

(END)